

VANM260.001APC SEQLIST as filed.txt
SEQUENCE LISTING

<110> Jonniaux, Jean-Luc
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Dauvrin, Thierry

<120> MYROTHECIUM SP. TRANSFORMATION AND EXPRESSION SYSTEM

<130> VANM260.001APC

<140> US 10/525,984

<141> 2005-02-25

<150> PCT/BE03/00143

<151> 2003-08-29

<150> US 60/404,843

<151> 2002-08-2002

<160> 37

<170> PatentIn version 3.2

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<213> Artificial

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<223> LR0R primer

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<212> DNA

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<223> ITS4 primer

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<210> 7
<211> 1052
<212> DNA
<213> Myrothecium

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<221> misc_feature
<223> 28s rDNA sequence of the strain MUCL39210

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gaacgggacg ccatagaggg tgagagcccc gtctggtcgg acaccgagcc tctgtaaagc     180
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<210> 8
 <211> 1040
 <212> DNA
 <213> Myrothecium

<220>

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 <223> 28s rDNA sequence of the strain MUCL11831

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 <213> Myrothecium

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<221> misc_feature
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 <213> Myrothecium

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 <211> 1044
 <212> DNA
 <213> Myrothecium

<220>

<221> misc_feature
 <223> 28s rDNA sequence of the strain IMI29040

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<211> 445
<212> DNA
<213> Myrothecium

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<210> 13
<211> 459
<212> DNA
<213> Myrothecium

<220>
<221> misc_feature
<223> ITS sequence of the strain MUCL11831

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actcaatgtt tttcatgcag tattatctga gtggcaaacg caaaaaataa atcaaaaactt 120
ttaacaacgg atctcttggc tctggcatcg atgaagaacg cagcgaaatg cgataagtaa 180
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gtaaaacccc cgactttctg aacgttgacc tcggatcag 459

<210> 14
<211> 423
<212> DNA
<213> Myrothecium

<220>
<221> misc_feature
<223> ITS sequence of the strain CBS449.71

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acaacggatc tcttggttct ggcatcgatg aagaacgcag cgaaatgcga taagtaatgt 180
gaattgcaga attcagtga tcatcgaatc ttgaaacgca cattgcgccc gccagtattc 240
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aaa 423

<210> 15
<211> 445
<212> DNA

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<213> Myrothecium

<220>

<221> misc_feature

<223> ITS sequence of the strain IMI140595

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atcggtcag	gggacgcgc	gcaagcgcc	gcttcccgc	ggccccgaaa	tctagtggcg	360
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<210> 16

<211> 434

<212> DNA

<213> Myrothecium

<220>

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<223> ITS sequence of the strain IMI290405

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gaattgcaga	attcagtga	tcatcgaatc	tttgaacgca	cattgcgccc	gccagtattc	240
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<211> 24

<212> DNA

<213> Artificial

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<223> AMY1 primer

<400> 17

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<210> 18

<211> 23

<212> DNA

<213> Artificial

<220>

<223> AMY2 primer

<400> 18

gctctagagc aaccaccagg tca 23

<210> 19

<211> 17

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<212> DNA
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 <223> Gpd1 primer

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 <222> (3)..(3)
 <223> n is A, C, T or G

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 <222> (12)..(12)
 <223> n is dInosine

 <400> 19
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 <210> 20
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 <213> Artificial

 <220>
 <223> Gpd2 primer

 <400> 20
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 <210> 21
 <211> 23
 <212> DNA
 <213> Artificial

 <220>
 <223> Gpd3 primer

 <220>
 <221> misc_feature
 <222> (12)..(12)
 <223> n is A, C, T or G

 <220>
 <221> misc_feature
 <222> (18)..(18)
 <223> n is dInosine

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 <210> 22
 <211> 23
 <212> DNA
 <213> Artificial

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 <223> Gpd4 primer

 <220>
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VANM260.001APC SEQLIST as filed.txt

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<222> (18)..(18)
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<210> 23
<211> 836
<212> DNA
<213> Myrothecium

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<210> 24
<211> 954
<212> DNA
<213> Myrothecium

<220>
<221> misc_feature
<223> gpd gene sequence of the strain CBS449.71

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<210> 25
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<212> DNA

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<213> Myrothecium

<220>

<221> misc_feature

<223> gpd gene sequence of the strain IMI290405

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tacatgggag	catcagcaga	gggggcagag	atgatgacct	tcttggcacc	acccttcaag	300
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ccagtctcct	tccaagggat	ggcagcgggg	tcacgctcag	tgtagaagcg	gaccttcttg	420
ccgttgacgg	tcaggtcagc	gccatcgacg	gtgacctcac	ccttgaagac	gccgtgggtg	480
gagtcatact	tgagcatgta	ggcctatgcg	tggatgggtgg	tgggaaagcat	gagtgaattg	540
gagggattgc	gtgaggggtga	tgaagcatca	ttgtgggtgtg	tcaatggggc	tgtttctgct	600
gctgctggcg	gcggttggtg	gtggtgggtga	caaaagaaat	ttgttgagcg	ggaaagggat	660
agacggcggc	gcatgatata	atggaggggc	aaatattgac	gcgctgatga	tagtgggggtg	720
atttttggag	gcacctgggt	ttgtcttttg	ttgcattttt	tctgcccttc	actcggtcgg	780
tccgtgtctg	cgccgcgcgt	ctgcccctcc	tctgtctgca	cagagtgcac	gctgggctgc	840
agccagctcc	gttgcccgct	cgctcgctcg	cctgcgtgcc	ttgtcccttt	ggagctgagg	900
ggaaagaggt	gggatcgaga	tcacaatcaa	aaggttgtag	tcacagcgta	ggtgggctca	960
atgaagggat	cgttgacggc	aacgatctcg	acgtcggagt	gctcgacggc	gttgcggaag	1020
acgatacgac	caatgcggcc	gaaccattg	atacc			1055

<210> 26

<211> 850

<212> DNA

<213> Myrothecium

<220>

<221> misc_feature

<223> gpd gene sequence of Myrothecium gramineum (Xepiculopsis graminea) MUCL39210

<400> 26

gccgtcgagc	actccgacgt	cgagatcggt	gccgtcaacg	accccttcat	tgagcccaag	60
tacgtgtgaa	gtgctgttct	tgcttcccct	cagtcgacga	gcgagcccaa	agccgagctg	120
cagctagcgg	agccatgcgc	tgcttgcatt	ccactgcata	acagcagcta	gaggaggggt	180
acacggccgc	gcgcgcagac	acacatacaa	caccaccacc	acaaaaggga	ggggcagaaa	240
aaatccagca	ttgtccgatt	tcaccccacc	atctcacgtc	aaccaatttg	cccctccatg	300
atatcatgtg	tccgcgcccc	gctcaacacg	tccacctcct	ctggccaatg	gcgagcgcat	360
tgatgctttg	atgagcggaa	acgacgctga	ggccctcagc	ctcgtcgtcg	ctgcccgtgc	420
cgccgcgcgc	cgctcacgca	tcggcgggct	cccgtcgtcg	ggcttcaatt	gacatgacat	480
gatgcatggc	caccgtgcta	accacccctg	tgtctgtccg	ataggcctac	atgctcaagt	540
atgactctac	ccacgggtctc	ttcaagggtg	aggtcaccgt	cgatggcgat	gacctgaccg	600
tcaacggcaa	gaagggtccgc	ttctacactg	agcgtgaccc	cgccgccatc	ccctggaagg	660
agactggtgc	cgagtacatt	gtcaggtcca	ccggtgtctt	caccaccaag	gacaaggctg	720
ctgctcacct	gaagggtggg	gccaaagaag	tcatcatctc	tgccccctct	gccgatgccc	780
ccatgtacgt	tatgggtgtc	aacgaggaga	cctacgacgg	cagcgccgac	gtcatctcca	840
acgcttcttg						850

<210> 27

<211> 130

<212> PRT

<213> Myrothecium

<220>

<221> MISC_FEATURE

<223> glyceraldehyde 3-P dehydrogenase sequence of Myrothecium

VANM260.001APC SEQLIST as filed.txt
gramineum (Xepiculopis graminea) MUCL39210

<400> 27
Ala Val Glu His Ser Asp Val Glu Ile Val Ala Val Asn Asp Pro Phe
1 5 10 15
Ile Glu Pro Lys Tyr Ala Ala Tyr Met Leu Lys Tyr Asp Ser Thr His
20 25 30
Gly Leu Phe Lys Gly Glu Val Thr Val Asp Gly Asp Asp Leu Thr Val
35 40 45
Asn Gly Lys Lys Val Arg Phe Tyr Thr Glu Arg Asp Pro Ala Ala Ile
50 55 60
Pro Trp Lys Glu Thr Gly Ala Glu Tyr Ile Val Glu Ser Thr Gly Val
65 70 75 80
Phe Thr Thr Lys Asp Lys Ala Ala Ala His Leu Lys Gly Gly Ala Lys
85 90 95
Lys Val Ile Ile Ser Ala Pro Ser Ala Asp Ala Pro Met Tyr Val Met
100 105 110
Gly Val Asn Glu Glu Thr Tyr Asp Gly Ser Ala Asp Val Ile Ser Asn
115 120 125
Ala Ser
130

<210> 28
<211> 21
<212> DNA
<213> Artificial

<220>
<223> hphpCSN431 primer

<400> 28

atgcctgaac tcaccgac g

21

<210> 29
<211> 18
<212> DNA
<213> Artificial

<220>
<223> hphpCSN432 primer

<400> 29

ctattccttt gccctcgg

18

<210> 30
<211> 16
<212> DNA
<213> Artificial

<220>
<223> GPD2 primer

<400> 30

tctggcatgc ggagag

16

<210> 31
<211> 16
<212> DNA
<213> Artificial

VANM260.001APC SEQLIST as filed.txt

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<220>
<223> AMY5 primer

<400> 31
cgatgatgcc ctgcca 16

<210> 32
<211> 850
<212> DNA
<213> Myrothecium

<220>
<221> CDS
<222> (1)..(66)

<220>
<221> misc_feature
<222> (1)..(850)
<223> partial nucleotide sequence and its deduced protein sequence of
the Myrothecium gramineum MUCL39210 glyceraldehyde-3-P
dehydrogenase gene

<220>
<221> CDS
<222> (525)..(848)

<400> 32

gcc gtc gag cac tcc gac gtc gag atc gtt gcc gtc aac gac ccc ttc 48
Ala Val Glu His Ser Asp Val Glu Ile Val Ala Val Asn Asp Pro Phe
1 5 10 15
att gag ccc aag tac gct gtaagtgtctg cttctgcttc ccctcagtcg 96
Ile Glu Pro Lys Tyr Ala
20
acgagcgcgagc ccaaagccga gctgcagcta gcggagccat gcgctgcctg catgccactg 156
cataacagca gctagaggag gggtagacg cgcgcgcgcg agacacacat acaacaccac 216
caccaccaaa aggaggggca gaaaaaatcc agcattgtcc gatttcaccc caccatctca 276
cgtcaaccaa ttgcccctc catgatatca tgtgtccgcg cccagctcaa cacgtccacc 336
tcctctggcc aatggcgagc gcattgatgc ttgatgagc ggaaacgacg ctgaggccct 396
cagcctcgtc gtcgctgccg ctgccgccgc gcgccgctca cgcacgagcg ggctcccgtc 456
gctgggcttc aattgacatg acatgatgca tggccaccgt gctaaccacc cctgtgtctg 516
tccgatag gcc tac atg ctc aag tat gac tct acc cac ggt ctc ttc aag 566
Ala Tyr Met Leu Lys Tyr Asp Ser Thr His Gly Leu Phe Lys
25 30 35
ggt gag gtc acc gtc gat ggc gat gac ctg acc gtc aac ggc aag aag 614
Gly Glu Val Thr Val Asp Gly Asp Asp Leu Thr Val Asn Gly Lys Lys
40 45 50
gtc cgc ttc tac act gag cgt gac ccc gcc gcc atc ccc tgg aag gag 662
Val Arg Phe Tyr Thr Glu Arg Asp Pro Ala Ala Ile Pro Trp Lys Glu
55 60 65
act ggt gcc gag tac att gtc gag tcc acc ggt gtc ttc acc acc aag 710
Thr Gly Ala Glu Tyr Ile Val Glu Ser Thr Gly Val Phe Thr Thr Lys
70 75 80
gac aag gct gct gct cac ctg aag ggt ggt gcc aag aag gtc atc atc 758
Asp Lys Ala Ala Ala His Leu Lys Gly Gly Ala Lys Lys Val Ile Ile
85 90 95 100
tct gcc ccc tct gcc gat gcc ccc atg tac gtt atg ggt gtc aac gag 806
Ser Ala Pro Ser Ala Asp Ala Pro Met Tyr Val Met Gly Val Asn Glu
105 110 115
gag acc tac gac ggc agc gcc gac gtc atc tcc aac gct tct tg 850
Glu Thr Tyr Asp Gly Ser Ala Asp Val Ile Ser Asn Ala Ser
120 125 130

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VANM260.001APC SEQLIST as filed.txt

<210> 33
 <211> 22
 <212> PRT
 <213> Myrothecium

<400> 33

Ala Val Glu His Ser Asp Val Glu Ile Val Ala Val Asn Asp Pro Phe
 1 5 10 15
 Ile Glu Pro Lys Tyr Ala
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<210> 34
 <211> 108
 <212> PRT
 <213> Myrothecium

<400> 34

Ala Tyr Met Leu Lys Tyr Asp Ser Thr His Gly Leu Phe Lys Gly Glu
 1 5 10 15
 Val Thr Val Asp Gly Asp Asp Leu Thr Val Asn Gly Lys Lys Val Arg
 20 25 30
 Phe Tyr Thr Glu Arg Asp Pro Ala Ile Pro Trp Lys Glu Thr Gly
 35 40 45
 Ala Glu Tyr Ile Val Glu Ser Thr Gly Val Phe Thr Thr Lys Asp Lys
 50 55 60
 Ala Ala Ala His Leu Lys Gly Gly Ala Lys Lys Val Ile Ile Ser Ala
 65 70 75 80
 Pro Ser Ala Asp Ala Pro Met Tyr Val Met Gly Val Asn Glu Glu Thr
 85 90 95
 Tyr Asp Gly Ser Ala Asp Val Ile Ser Asn Ala Ser
 100 105

<210> 35
 <211> 204
 <212> PRT
 <213> Myrothecium

<220>
 <221> MISC_FEATURE
 <223> partial GPD protein sequence from the strain MUCL39210

<400> 35

Gly Ile Asn Gly Phe Gly Arg Ile Gly Arg Ile Val Phe Arg Asn Ala
 1 5 10 15
 Val Glu His Pro Asp Ile Glu Ile Val Ala Val Asn Asp Pro Phe Ile
 20 25 30
 Glu Thr Lys Tyr Ala Ala Tyr Met Leu Lys Tyr Asp Ser Thr His Gly
 35 40 45
 Leu Phe Lys Gly Glu Val Glu Ala Asp Gly Ala Asp Leu Ser Val Asn
 50 55 60
 Gly Lys Lys Val Arg Phe Tyr Thr Glu Arg Asp Pro Ala Ser Ile Pro
 65 70 75 80
 Trp Lys Glu Thr Gly Ala Glu Tyr Ile Val Glu Ser Thr Gly Val Phe
 85 90 95
 Thr Thr Thr Asp Lys Ala Lys Ala His Leu Ala Gly Gly Ala Lys Lys
 100 105 110
 Val Ile Ile Ser Ala Pro Ser Ala Asp Ala Pro Met Tyr Val Met Gly
 115 120 125
 Val Asn Glu Lys Thr Tyr Asp Gly Ser Ala Asp Val Ile Ser Asn Ala
 130 135 140

VANM260.001APC SEQLIST as filed.txt

Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu Ala Lys Val Leu Asn Asp
 145 150 155 160
 Lys Tyr Thr Ile Ile Glu Gly Leu Met Thr Thr Val His Ser Tyr Thr
 165 170 175
 Ala Thr Gln Lys Thr Val Asp Gly Pro Ser Ala Lys Asp Trp Arg Gly
 180 185 190
 Gly Arg Gly Ala Ala Gln Asn Ile Ile Pro Thr Thr
 195 200

<210> 36
 <211> 204
 <212> PRT
 <213> Myrothecium

<220>
 <221> MISC_FEATURE
 <223> partial GPD protein sequence from the strain MUCL11831

<400> 36

Gly Ile Asn Gly Phe Gly Arg Ile Gly Arg Ile Val Phe Arg Asn Ala
 1 5 10 15
 Val Glu His Asp Asp Val Glu Ile Val Ala Val Asn Asp Pro Phe Ile
 20 25 30
 Glu Pro Lys Tyr Ala Ala Tyr Met Leu Lys Tyr Asp Ser Thr His Gly
 35 40 45
 Leu Phe Lys Gly Glu Val Ser Val Asp Gly Ala Asp Leu Thr Val Asn
 50 55 60
 Gly Lys Lys Val Arg Phe Tyr Thr Glu Arg Asp Pro Ala Ala Ile Pro
 65 70 75 80
 Trp Lys Glu Thr Gly Ala Glu Tyr Ile Val Glu Ser Thr Gly Val Phe
 85 90 95
 Thr Thr Lys Asp Lys Ala Ala Ala His Leu Lys Gly Gly Ala Lys Lys
 100 105 110
 Val Ile Ile Ser Ala Pro Ser Ala Asp Ala Pro Met Tyr Val Met Gly
 115 120 125
 Val Asn Glu Glu Thr Tyr Asp Gly Ser Ala Asp Val Ile Ser Asn Ala
 130 135 140
 Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu Ala Lys Val Ile His Asp
 145 150 155 160
 Lys Phe Thr Ile Ile Glu Gly Leu Met Thr Thr Val His Ser Thr Leu
 165 170 175
 Pro Pro Arg Arg Pro Leu Thr Val Pro Pro Pro Arg Thr Gly Ala Val
 180 185 190
 Ala Val Val Leu Pro Arg Thr Ser Ser Pro Ala Ala
 195 200

<210> 37
 <211> 204
 <212> PRT
 <213> Myrothecium

<220>
 <221> MISC_FEATURE
 <223> partial GPD protein sequence from the strain CBS449.71

<400> 37

Gly Ile Asn Gly Phe Gly Arg Ile Gly Arg Ile Val Phe Arg Asn Ala
 1 5 10 15
 Val Glu His Ser Asp Val Glu Ile Val Ala Val Asn Asp Pro Phe Ile
 20 25 30
 Glu Pro Thr Tyr Ala Ala Tyr Met Leu Lys Tyr Asp Ser Thr His Gly

Sequence alignment of Phe50 and Thr185															
Phe50					Thr185					Sequence alignment					
Val	Phe	Lys	Gly	Glu	Val	Thr	Val	Asp	Gly	Ala	Asp	Leu	Thr	Val	Asn
Gly	50	Lys	Lys	Val	Arg	Phe	Thr	Glu	Arg	Asp	60	Ala	Ala	Ile	Pro
65	Lys	Lys	Val	Arg	70	Tyr	Thr	Glu	Arg	75	Pro	Ala	Ala	Ile	80
Trp	Lys	Glu	Thr	Gly	85	Ala	Asp	Tyr	Ile	90	Val	Glu	Ser	Thr	95
Thr	Thr	Lys	Asp	Lys	100	Ala	Ala	Ala	His	105	Leu	Lys	Gly	Gly	110
Val	Ile	Ile	Ser	Ala	Pro	Ser	Ala	Asp	Ala	Pro	Met	Tyr	Val	Met	Gly
Val	Asn	Ile	Ser	Ala	115	Pro	Ser	Ala	Asp	120	Ala	Pro	Met	Tyr	125
Val	Asn	Glu	Glu	Thr	130	Tyr	Asp	Gly	Ser	135	Ala	Asp	Val	Ile	140
Ser	Cys	Thr	Thr	Asn	145	Cys	Leu	Ala	Pro	150	Leu	Ala	Lys	Val	155
Lys	Phe	Thr	Ile	Ile	160	Glu	Gly	Leu	Met	165	Thr	Thr	Val	His	170
Ala	Thr	Gln	Lys	Thr	175	Val	Asp	Gly	Pro	180	Ser	Ala	Lys	Asp	185
Gly	Arg	Gly	Ala	Ala	185	Gln	Asn	Ile	Pro	190	Ser	Thr	Trp	Arg	195